Fusion3

F200 3D Printer

MAINTENANCE:
EXTRUDER SERVICE

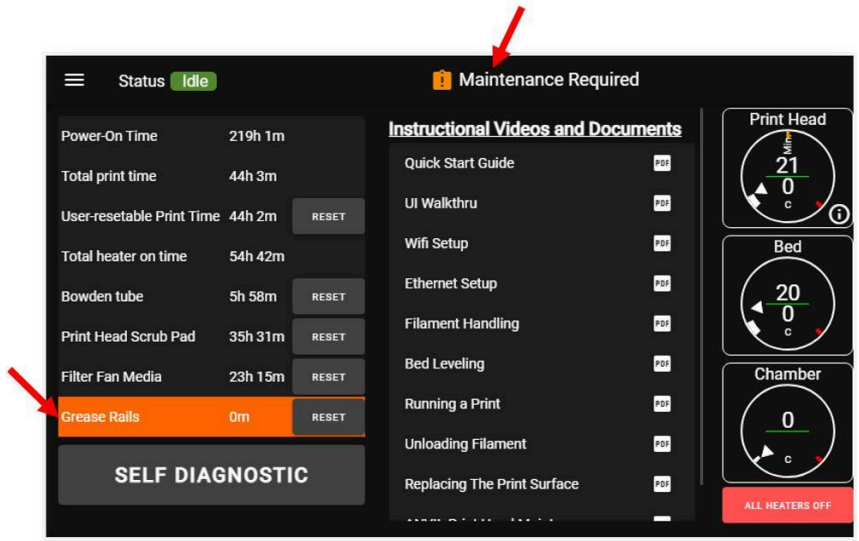
Revision 2/12/2026

SERVICING THE EXTRUDER

What to service when the "Service Extruder" maintenance reminder pops up.

WHEN TO SERVICE

The on-board maintenance counters & reminders will prompt you when it is time to service the extruder.



HOW TO SERVICE

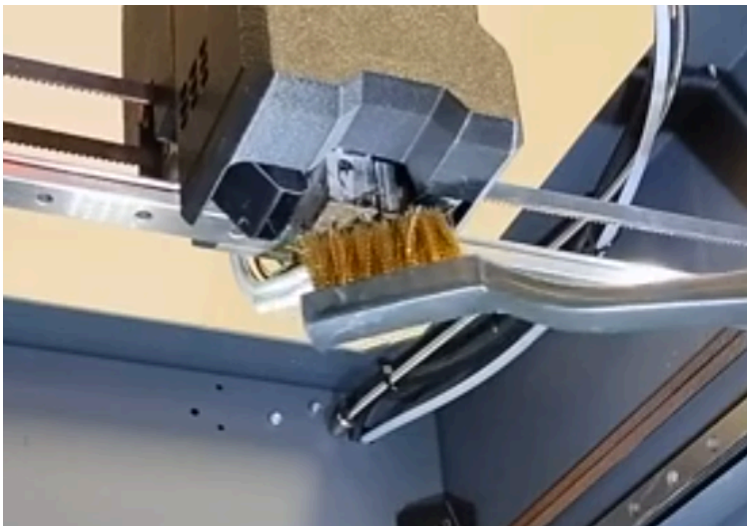
You should check three things when this maintenance reminder pops up:

- Clean & inspect the print head.
- Check the feed gears for debris and proper idler bar spring preload.
- Check the condition of the filament feed tube.

Check the Print Head

1. Clean any debris or buildup from the bottom of the print head:
    a. Power the printer on.
    b. Manually heat the print head to ~275C and wait for it to come up to temperature.
    c. Once up to temperature, **power the printer off**.

d. Use a brass bristle brush to gently scrub the accumulated debris from the bottom of the print head and nozzle tip. Do this immediately after you power off so it doesn't have time to cool down. **CAUTION: THE PRINT HEAD WILL BE VERY HOT. DO NOT TOUCH IT DIRECTLY.**



e. Power the printer back on when you're finished.

2. Inspect the condition of the nozzle. Make sure the tip is still square relative to the bore, and make sure the outlet has not been worn away (common if you run a lot of abrasive materials such as CF, GF, or glow in the dark).

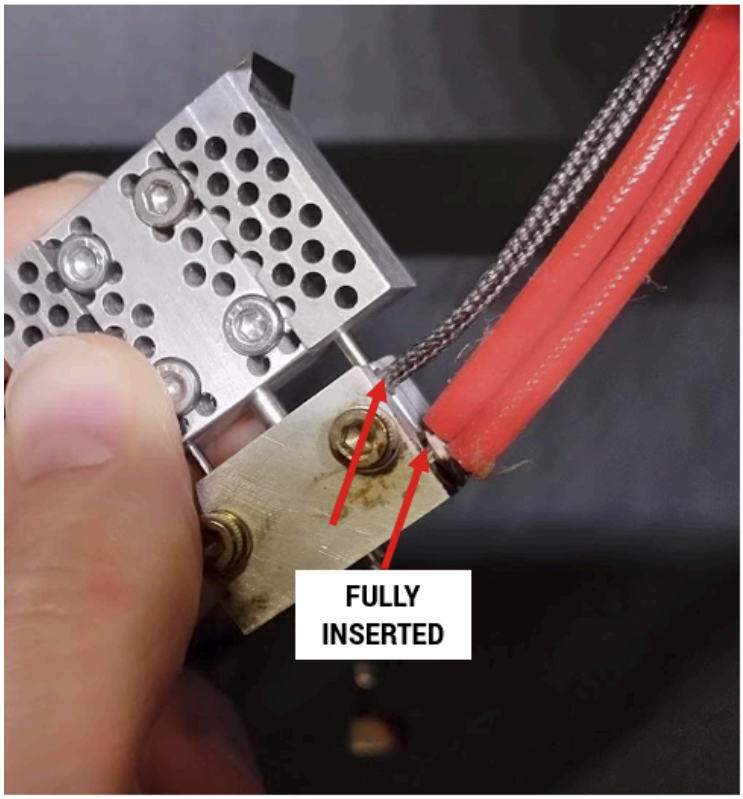
Pic - new vs worn

Pic - orifice new vs worn

The ANVIL tube is a consumable item and should be replaced as needed.

3. Inspect the heater and sensor. Make sure:

a. They're both fully inserted into the hot side.

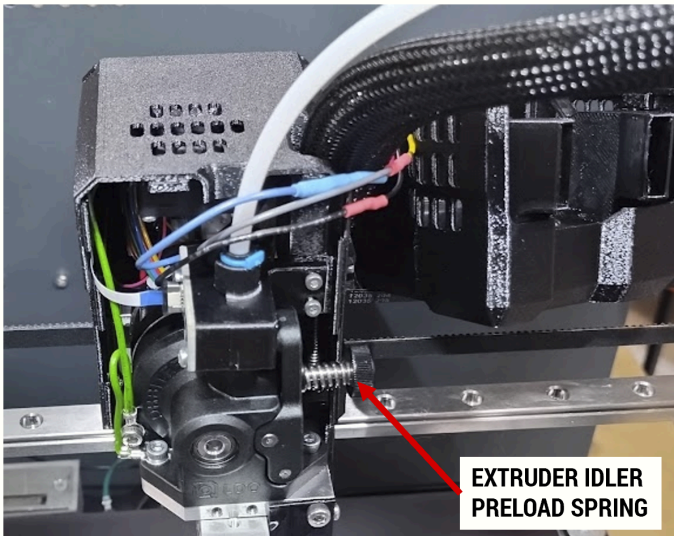


b. The wires are not worn, excessively bent, or have bare exposed conductors.

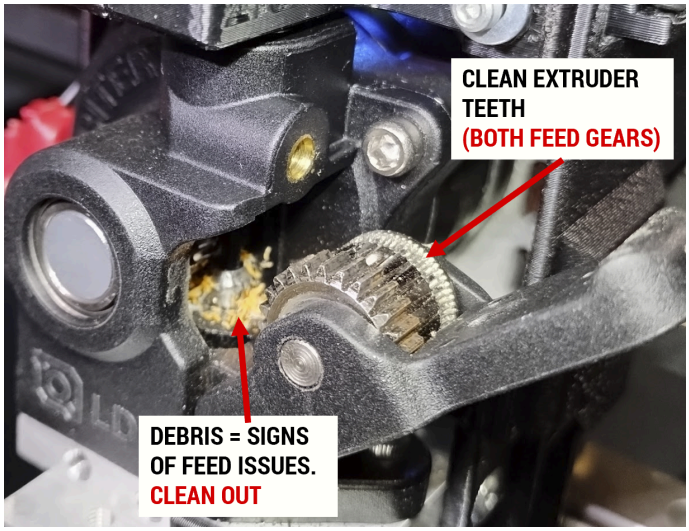
These components are consumables and should be replaced as needed.

Check the Extruder Feed System

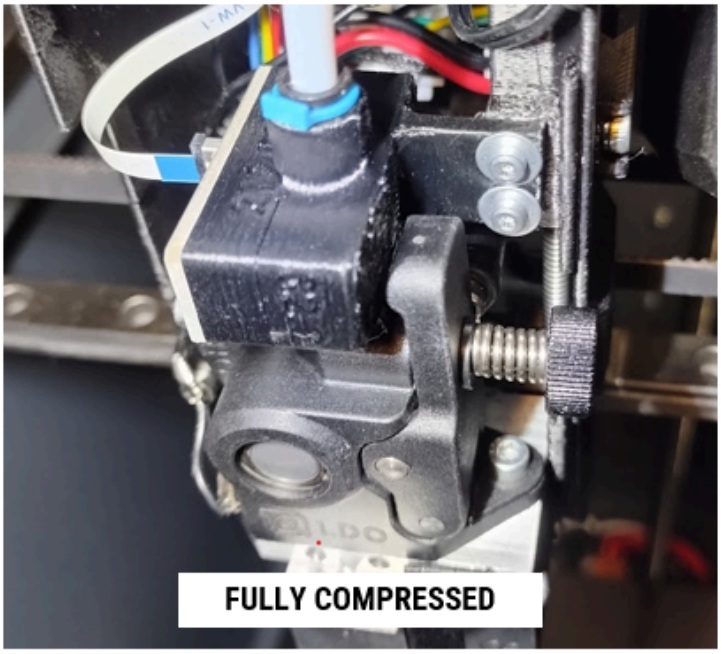
1. Remove the front toolhead housing HERE.
2. Unthread the idler bar preload thumbscrew until it comes out of the extruder.

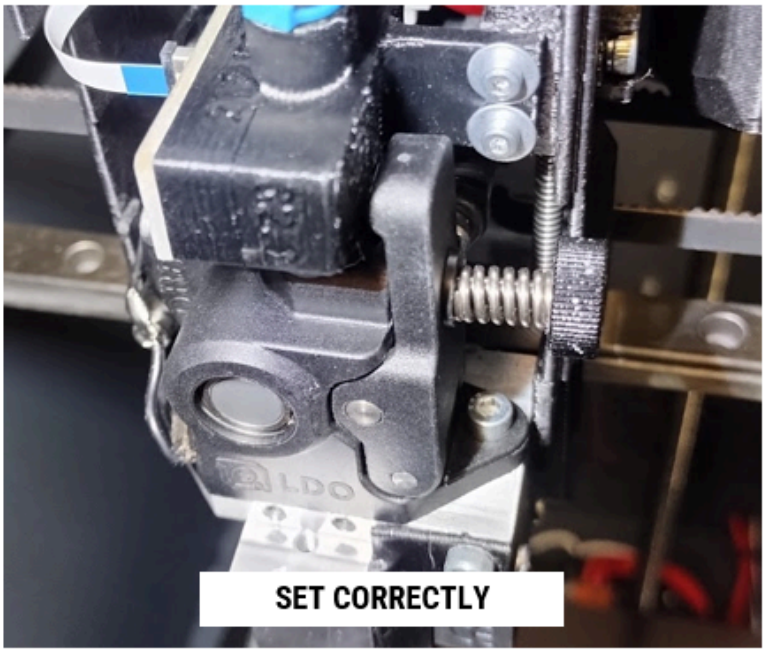


3. Open the idler bar and check for debris in both feed gear teeth AND around the feed gears.



4. Used a soft bristle brush (like a toothbrush) and/or compressed air to clear any debris found.
5. Reinstall the idler bar preload screw. The correct preload is threaded completely in until the spring is fully compressed, then back 2.5 complete turns (2x 360 degrees + 180 degrees of rotation).





6. Reinstall the front toolhead housing.

Check the Main Filament Feed Tube

Over time the filament tube can be worn down by the motion of filament through it, and by rubbing on the top window. Give it a quick visual inspection to make sure you don't see:

- Thin spots where the filament is wearing through.
- Kinks or sharp bends that could increase the resistance of filament running through it.
- Other damage.

Make sure the print head end is firmly retained in the toolhead, and the other end is retained in the rear panel (simple friction fit). If it's loose in either place, replace it.